
Conops Validation

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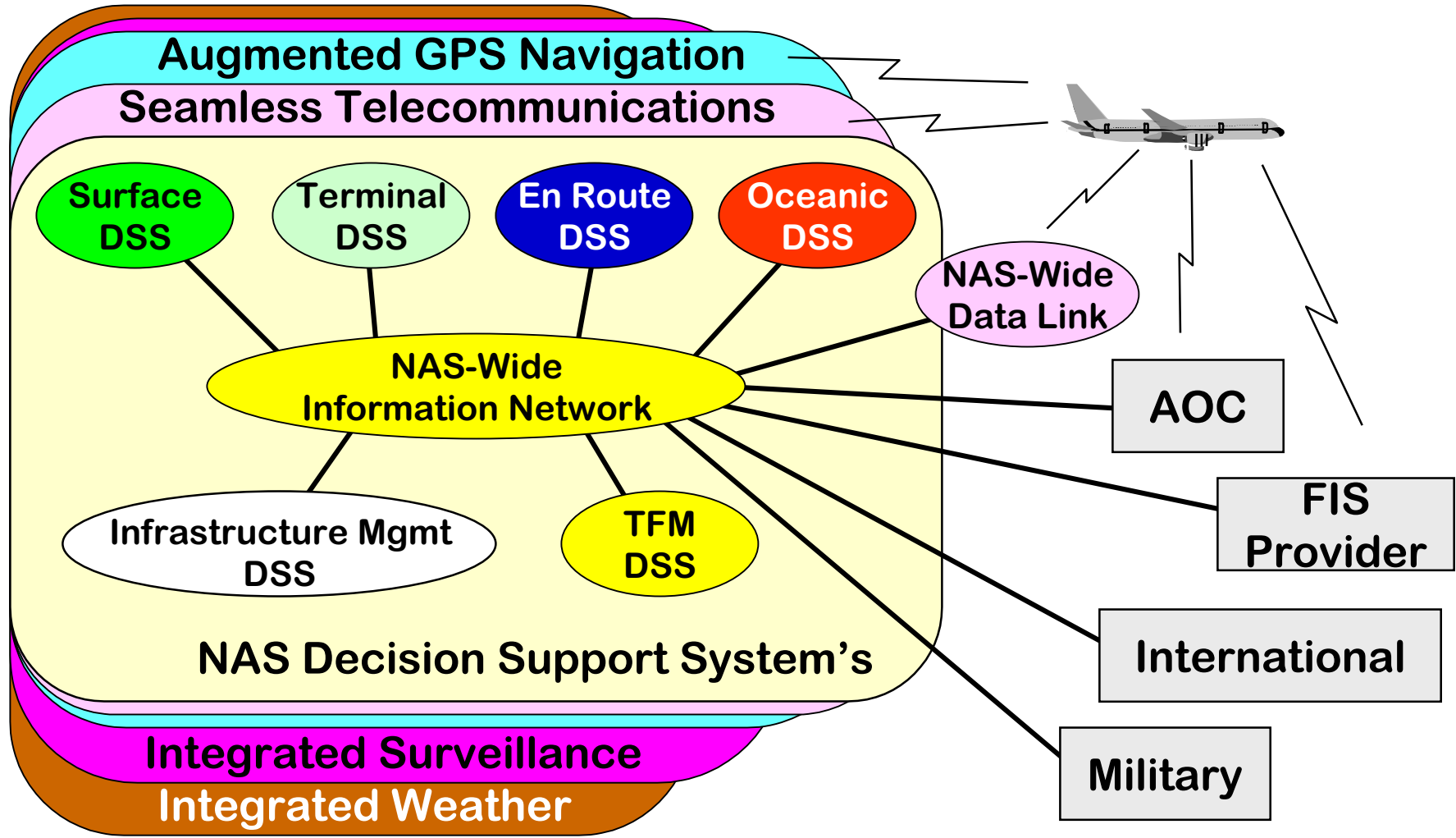
Federal Aviation Administration

Washington, DC

Transportation Research Board

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Systems View of the Future CONOPs



Changing Environment

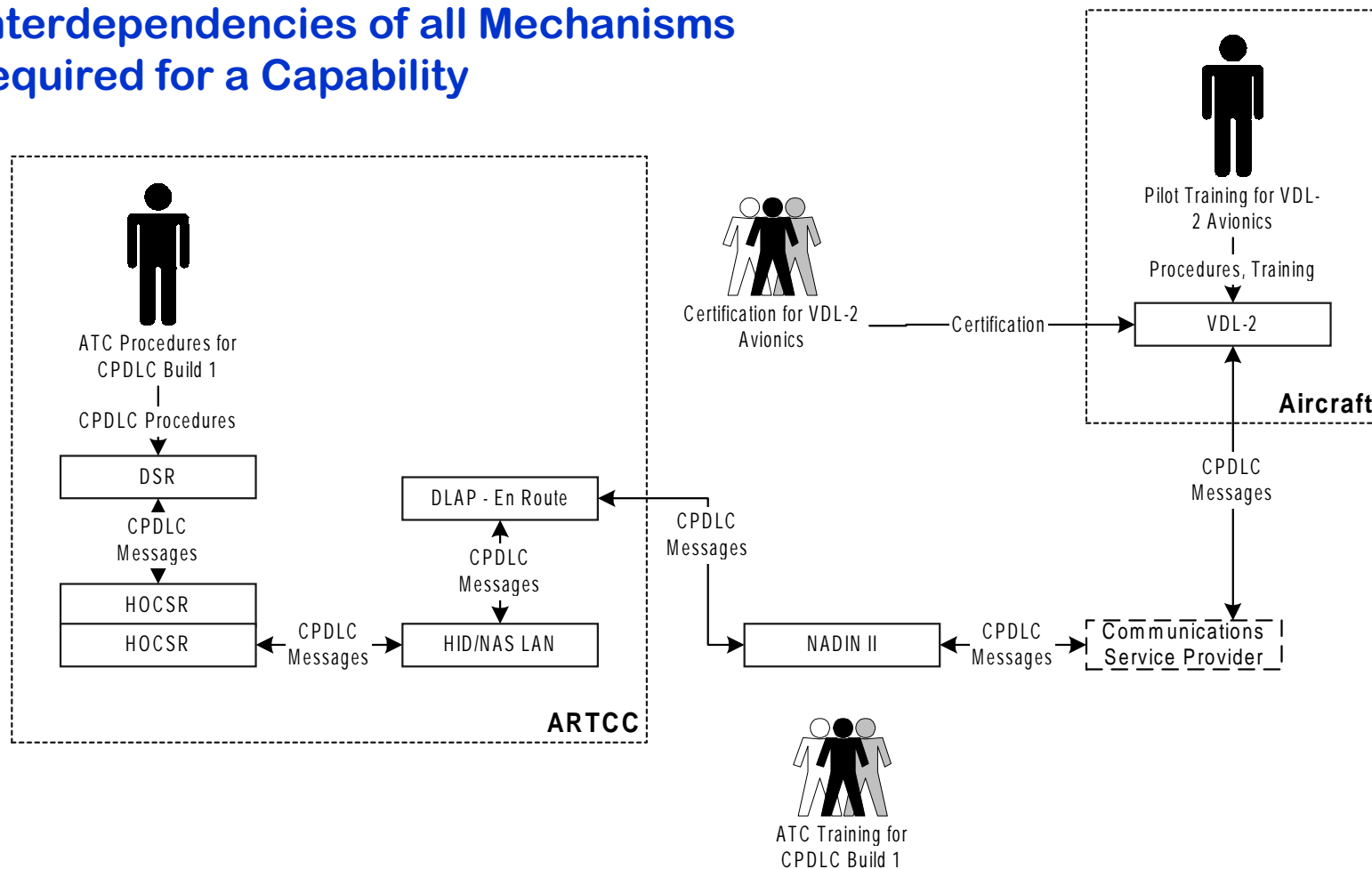
- Substantial growth in demand
- Increasingly astute users with differing objectives and performance requirements
 - Flexibility, Predictability, Access, Delay
- Hard limits to current structure
 - Sector size
 - Spectrum

Major Issues

- **Airspace design**
 - Horizontal organization
- **Multi-sector Planning**
- **Dynamic Sectorization**
- **Separation**
- **NAS-Wide Information (Flight Object)**

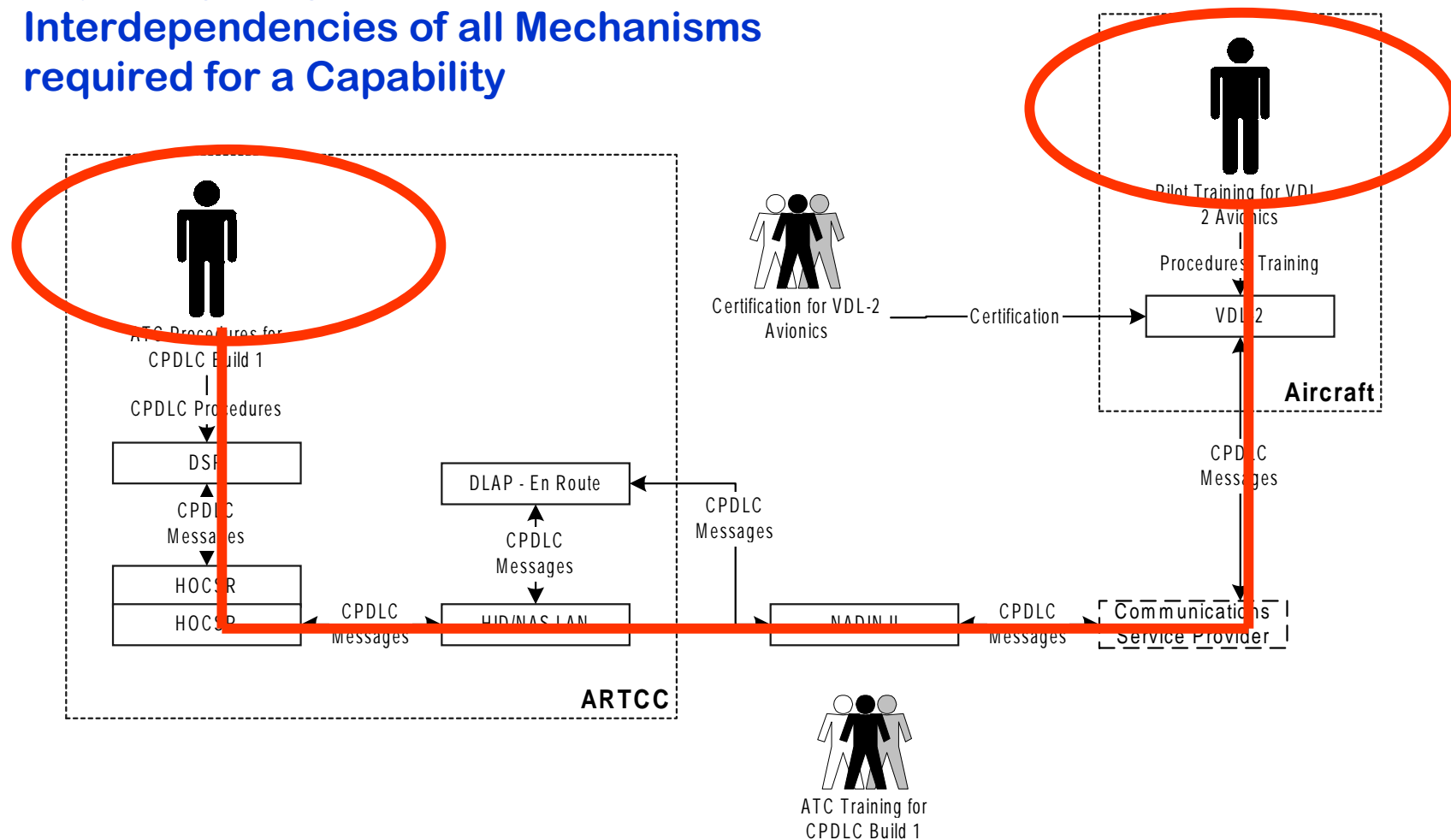
CPDLC - Build 1 Capability Diagram

Capability Diagrams show the Interdependencies of all Mechanisms required for a Capability



Capability Diagram

Capability Diagrams show the Interdependencies of all Mechanisms required for a Capability



How do we validate?

→ Develop detailed scenarios

→ Do paper analyses

→ → Fast-time Simulations - operational and
infrastructure modeling

→ Human-in-the-loop

Focuses on the Human Element

→ Information

- Expected use - procedures**
- Scope - what is needed**
- Volume - how much can be handled**
- Presentation - how can it most effectively be displayed**
- Performance - update rate, level of accuracy, etc.**

Focus on the Human Element

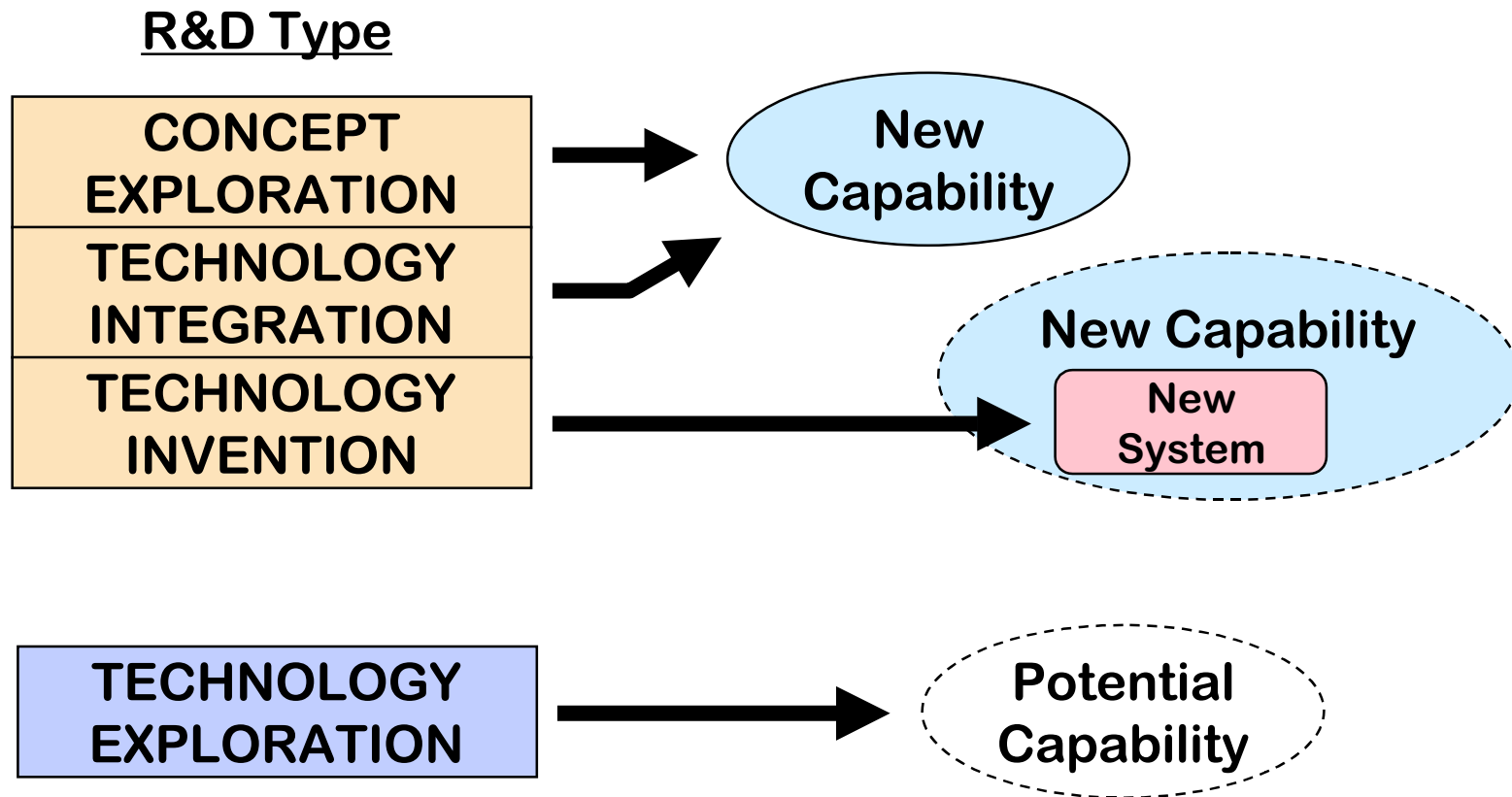
→ Roles

- Traditional vs. new positions

→ Responsibilities

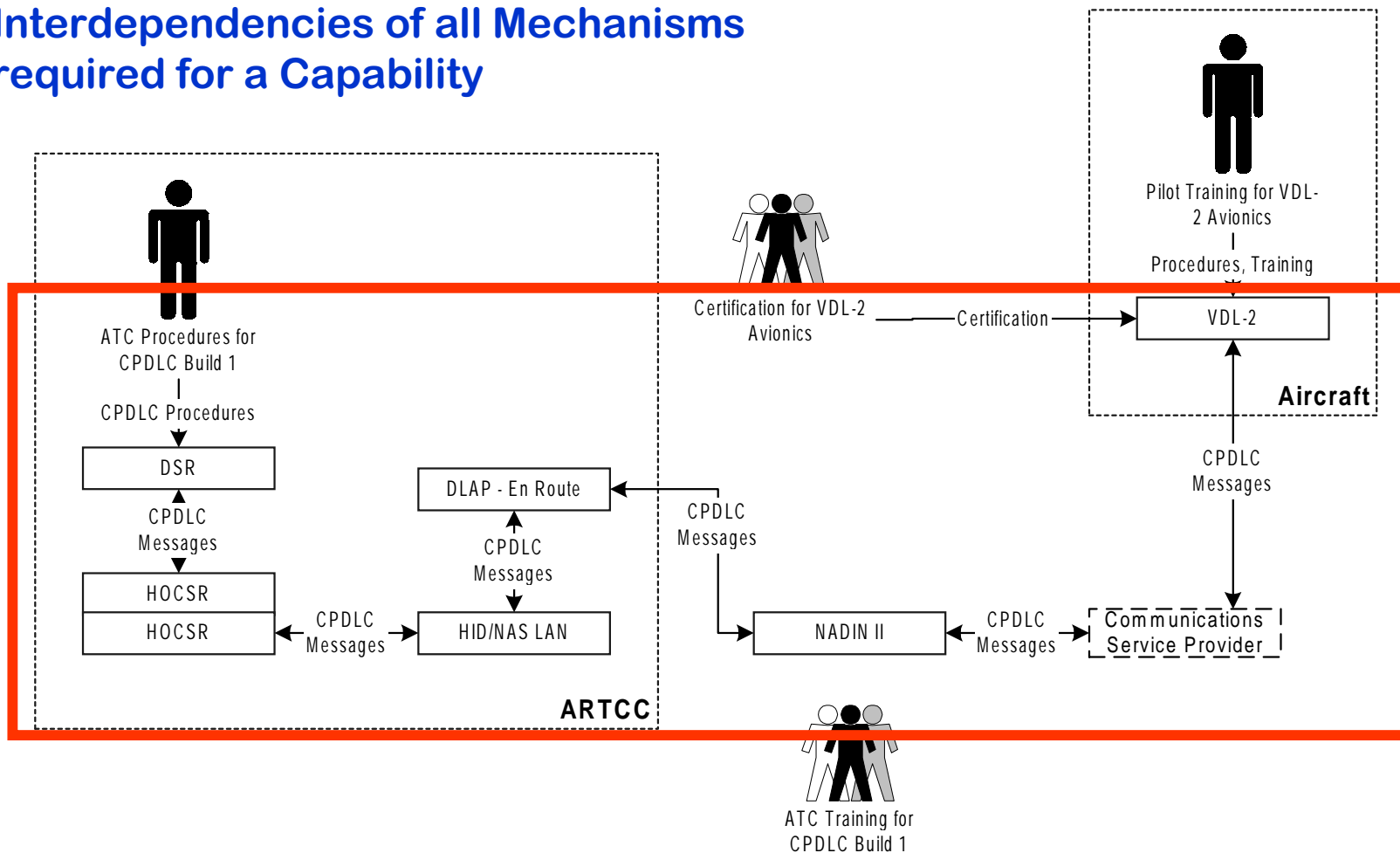
- Single line of communication
- Delegation of Separation Assurance
- Weather

R&D in the NAS Architecture



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